

# Creating a total SuperSlim visual experience

Real image, vivid as life



Introducing  
Cybertube+ SuperSlim

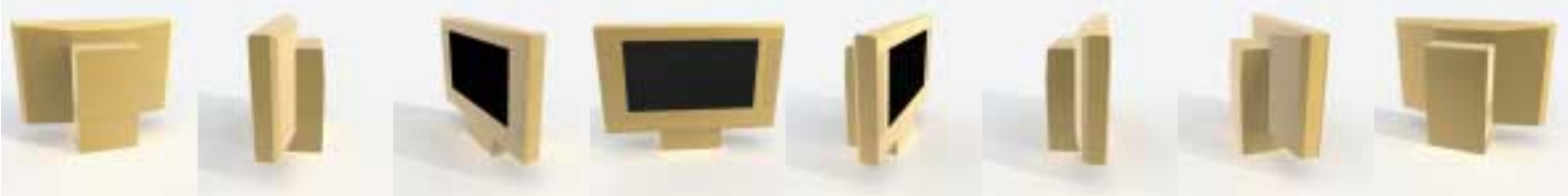
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# The CRT with a Flat Display Profile

The modern television is a fine blend of creative engineering and design. Meeting consumer demands for a totally immersive viewing experience combined with imaginative, elegant styling that fits perfectly into the most sophisticated home environment. Today, consumer preference is for flat and thin styling and, as every setmaker knows, it's the slim sets that can stand close to a wall or on a shelf that are the real eye catchers in the showroom.



LG.Philips Displays' new Cybertube+ SuperSlim colour picture tubes have been developed specifically to meet this preference. With a depth of 35 cm and a flat, ultra-slim, glass cone, Cybertube+ SuperSlim has a profile as near to that of a Flat Panel as it's possible to get in a CRT-based display. Offering setmakers the benefits of Flat Panel styling with all the inherent advantages of CRT technology.



## Conceived with setmakers in mind

When it was first proposed by LG.Philips Displays, the SuperSlim concept had to meet several challenging requirements:

- Maximum depth should not exceed 35 cm from front of screen to the base of the electron gun
- Front of screen performance and specifications had to be at least as good as those of the current Real Flat tubes manufactured by LG.Philips Displays
- The new tubes should, as far as possible, be compatible with current mainstream chassis designs to minimize setmakers' design-in effort
- Deflection energy had to be within the limits of current chassis components even with the higher deflection angles necessary with SuperSlim



The fact that these requirements have all been met in our new Cybertube+ SuperSlim family is a tribute to our design team's expertise in state-of-the-art CRT technology. It's also a sign of our unflinching commitment to support set-makers in meeting the needs of their markets.

The family is planned to comprise 21" RF, 28" WSRF, 29" RF and 32" WSRF models. All are designed to be either direct drop-in replacements for standard tubes or to require only minor chassis modifications using standard components.

So besides new cabinet styling to take advantage of the Flat Display profile, setmakers need only minimum design effort and minimum investment to build Cybertube+ SuperSlim into their next-generation sets.



### Storage and transport costs

The slim, flat profile of Cybertube+ SuperSlim also brings setmakers important savings in storage and transport costs of both picture tubes and finished sets. Around 25% reduction in package volume per tube gives a potential 25-50% saving in storage area. Savings in storage and transport of finished sets will depend on individual styling, but if setmakers choose to take full advantage of the family's Flat Display profile, they can expect savings in package volume per set of at least 25%.

### SuperSlim family

Tube	21" RF SuperSlim	28" WSRF SuperSlim	29" RF SuperSlim	32" WSRF SuperSlim
Depth mm*	352 (431)	347 (460)	345 (445)	350 (501)
Deflection angle	110°	~125°	~125°	125°
Sensitivity mJ	35	target 48	target 45	target 50

\*compared with conventional depth (in parentheses)

## A masterpiece of design

Drawing on the extensive knowledge of CRT display technology for which LG.Philips Displays is renowned, Cybertube+ SuperSlim represents the pinnacle of today's picture-tube development.

Created to meet the cost constraints of mainstream television receivers yet offering unsurpassed picture performance, the new family can only be described as a masterpiece of design.



### Putting the accent on commonality

The key to Cybertube+ SuperSlim's successful design is 'commonality' - incorporating advanced features into products that are virtually drop-in replacements for existing products.

This starts with LG.Philips Displays' revolutionary new 'Zero-DAF' electron gun. Based on the latest advances in electron-optics (including powerful computer-simulation techniques), the new Zero-DAF gun offers a level of performance superior even to that of the famous DAF (Dynamic Astigmatism and Focusing) gun used in our current Large Jumbo (28" to 32") series, without the need for the complicated



drive electronics demanded by the DAF system. This guarantees manufacturers of mainstream television sets DAF-like performance with virtually standard drive electronics.

The Zero-DAF gun also uses LG.Philips Displays' new Oxide Plus cathode which combines robustness and simple operation with exceptionally long life, even at the high beam currents used in modern high-performance television tubes.

Commonality is also the key to deflection yoke design. The 21" Cybertube+ SuperSlim uses a hybrid 'saddle-toroidal' deflection yoke that offers excellent performance/cost ratio for mainstream markets. And the 28", 29" and 32" versions use the new innovative low-energy rectangular (RAC) deflection yoke which maintains deflection energy below critical limits even at extreme deflection angles. Allowing the new SuperSlim tubes to be used in standard chassis with minimum modification.



### Estimated Savings (€) 32"WSRF SuperSlim compared to 32"WSRF

Features	Savings TV Cabinet Material		Savings Packing Material TV set		Savings Logistics	
	Tube depth	Cabinet depth	Cabinet Size	Weight	Warehouse Space	TV Set Transport
32"WSRF	500 mm	557mm	-	54 kg	-	117 (Sets/Load)
32"WSRF SuperSlim	352 mm(Δ148)	407 mm(Δ150)	30% Less Packing Material	53 kg (Δ1)	30% Less Size	156 (Sets/Load)
Savings (€)		2.3 (/Set)	0.9 (/Set)		0.8 (/Set)	4-5.3 (/Set)
Total	8 - 9.3 € (/Set) (in TV Set)					



### **Cybertube Superslim offers:**

- Dramatic reductions in TV set depth and footprint resulting in a flat display profile
- Exceptionally-long life
- Compatibility with standard chassis designs
- Attractive price
- Outstanding picture performance unrivalled by any other display technology
- Complete absence of colour and motion artifacts
- Superslim provides cost benefits in the total logistic chain



CYBERTUBE<sup>+</sup>  
SUPERSLIM



[www.lgphilips-displays.com](http://www.lgphilips-displays.com)

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*Look at the future*

 **LG.PHILIPS** Displays





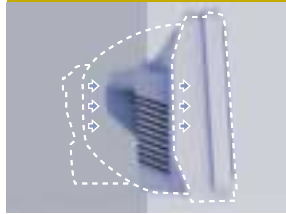
Concept

CYBERTUBE+  
SUPERSLIM

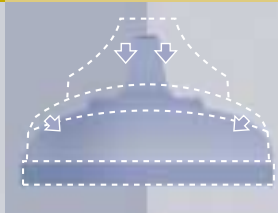
Cybertube+ 21" Real Flat SUPERSLIM A51ERS357X

21"  
SUPER  
SLIM

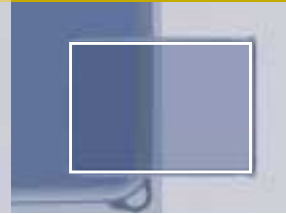
SUPERSLIM reshapes contour



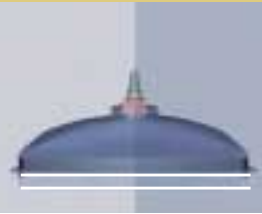
Real flat, DCM technology



SUPERSLIM by common application



Single focus gun



The CRT with a flat display profile!

**Cybertube+ 21" Real Flat SUPERSLIM**

**LG Philips Displays introduces the next step forward in CRT with Cybertube+ SUPERSLIM. This revolutionary technology offers dramatic reductions in TV set depth and footprint next to superb picture performance for mainstream televisions.**

**Revolutionary SUPERSLIM design**

- Improved overall form of the tube enables amazing competitive flat designs for CRT TV-sets & DVD-combis due to 20% depth reduction
- Offers increased design opportunities in every living or working environment



**Excellent picture performance**

- Superb sharpness, bright colors, amazing contrast



**Design-in-benefits**

- Entirely fit for use in mainstream applications; minimal costs
  - Less weight as the amount of glass is significantly reduced
  - Reduced depth leads to cost reduction in the logistic chain, upto 50% increased container load possible



Look at the future

 **LG.PHILIPS Displays**



32"  
SUPER  
SLIM



## The CRT with a flat display profile *Cybertube+ 32" Wide Screen Real Flat SUPERSLIM*

LG Philips Displays introduces the next step forward in CRT with Cybertube+ SUPERSLIM. This revolutionary technology offers dramatic reductions in TV set depth and footprint next to superb picture performance for mainstream televisions.

### Revolutionary SUPERSLIM design

- Improved overall form of the tube enables amazing competitive flat designs for CRT TV-sets & DVD-combis due to 30% depth reduction
- Offers increased design opportunities in every living or working environment



### Excellent picture performance

- Superb sharpness, bright colors, amazing contrast



### Design-in-benefits

- Entirely fit for use in mainstream applications; minimal costs
  - Common application conditions
- SUPERSLIM provides costs benefits in the total logistic chain

